ZHANG Tianjian
+86 177-2776-3227 | zhangtj6@mail2.sysu.edu.cn

Education

Sun Yat-sen University Guangzhou, China
Dual, Mathematics and Finance *September 2021 - now*

- GPA: 4.0/4.0 for both math and fin
- Courses: Real Analysis, Complex Analysis, Numerical Analysis, Time Series Analysis, ODE, PDE, Advance Probability and Statistic, Stochastic Process, Econometric, Intermediate Micro&Macro
- Scholarship: National Scholarship (top1%), Lingnan Dean Special Award (top1%), Sun Yat-sen University First-class Scholarship (top5%)

Frankfurt School Frankfurt, Germany
Guest Student *August 2023 - February 2024*

- Courses: Machine Learning, International Trade and Economic Integration, Environmental Economics and Energy Finance

Skills

Language: English (TOEFL: 100+, CET-6: 617)
Computer skills: R, Stata, proficient in Python, MATLAB and LaTex
Collaboration: Colab, Dropbox, Google drive and Overleaf

Professional Experience

CICC August 2023 - November 2023
Intern of Quant Analysis

- Conduct feature engineering for multiple factors, including various transformations (mainly Fourier, Laplace & Z), neutralization, and standardization to enhance the subsequent machine learning performance
- Construct an index enhancement strategy for CSI 500 and SSE 300 based on financial factors such as EBITDA, PE, and PB
- Employ machine learning through gradient boosted decision trees (using the lgb package) based on volume-price factors combined with major index and sentiment factors to develop a short-term stock selection strategy
- Complete the addition of features and bug fixes for the backtesting program, complete the backtesting for multiple strategies

Academic Experience

Department of ISOM, HKUST August 2023 - now
Independent Research, Supervised by Prof. SHEN Yiwen

- Proposed and proved the comparison proposition of optimal solutions in different parameter spaces
- Completed the proof of existence of analytic solutions, specific computational algorithms and computational complexity analysis in quadratic convex optimisation
- In a DP problem, solved optimal policy of resources allocation by Bellman Equation numerically in MATLAB and Python
- Analysis the concavity of cost function(transform function) of the optimal policy with mathematical proof under the help of visualized numerical solution

Activity Experience

National Mathematical Contest in Modeling for College Students September 2022
First prize, Tutored by Prof. JIANG Zhenglu

- Chemical composition analysis and classification of ancient glass objects using machine learning
- Programming: BP neural network learning, k-means clustering algorithm, machine learning prediction accuracy above 85%
- Data analysis: matplotlib, numpy, pandas for regression analysis and differentiation analysis